Industrial Standardization

Exposure Meters, Page 173

ASA Receives Ordnance Award

(Page 172)

September 1944

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ASA

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Standardization is dynamic, not static. It means not to stand still, but to move forward together.

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Left to right: Dr. H. S. Osborne, Standards Council chairman; Dr. P. G. Agnew, ASA secretary; General Reimel; Henry B. Bryans, president of ASA.

Brigadier General Stewart E. Reimel presents the Ordnance Department's Distinguished Service Award to the American Standards Association.

For "Outstanding . . . Services"

ON September 14, 1944, the Army Ordnance Department presented its Distinguished Service Award to the American Standards Association "In recognition of outstanding and meritorious engineering advisory services in war and peace, for the development, manufacture, and maintenance of Ordnance materiel."

Brigadier General Stewart E. Reimel, who has recently returned from active service in the three Pacific theatres of war as personal representative of Major General L. H. Campbell, Jr., Chief of Ordnance, made the presentation on behalf of General Campbell at a luncheon in the Waldorf Astoria, New York. Representatives of the 80 national trade, technical, and government groups that make up the membership of the ASA, some of whom have taken a leading part in the technical work, attended the luncheon with the members of the ASA staff.

General Reimel's presentation speech, and the acceptance by Henry B. Bryans, ASA president, on behalf of "the numerous groups and individuals who have done the work," are given in full in the special center section of this issue. The description of the war work of the ASA, presented by Dr. H. S. Osborne, chairman of the Standards Council, is given in condensed form.

The award itself is reproduced in full color, suitable for framing, for the benefit of the members of the ASA, and of sectional and war committees whose work is recognized in this citation.

Engineering Library

Industry and Armed Forces Pool Data On Exposure Meters

by F. K. McCune[1]

Chairman, ASA War Subcommittee G on Exposure Meters

War Standard specifications and tests will produce simplified meters that will withstand severe abuse

PHOTOGRAPHY has become a recognized part of making war, both in the training of men and on the actual battlefield. In this war, photographic equipment originally designed for civilian work has been used by the Armed Forces because of its availability. Recently, however, the pressing need for better equipment to meet the more rigorous demands of wartime usage has resulted in a program of war emergency standards for photographic equipment. The program is being carried forward by the ASA War Committee on Photography and Cinematography, Z52[2], working under the war procedure of the American Standards Association.

Important among these new standards are four covering reflected-light, photoelectric-type exposure meters prepared by Subcommittee G on Exposure Meters of ASA War Committee Z52.

With the exception of special fields, such as X-ray work, exposure of a photo-sensitive material to light is the basis of all photography. In order that a picture may be of value, it is obvious that the proper amount of light must be used. The exposure meter is a tool to determine the amount of light available and to translate this measured value into camera settings for the particular photo-sensitive material the photographer has available.

The two pictures below show two sides to the use of exposure meters in the Armed Forces. Neither picture, I am sure, needs comment.

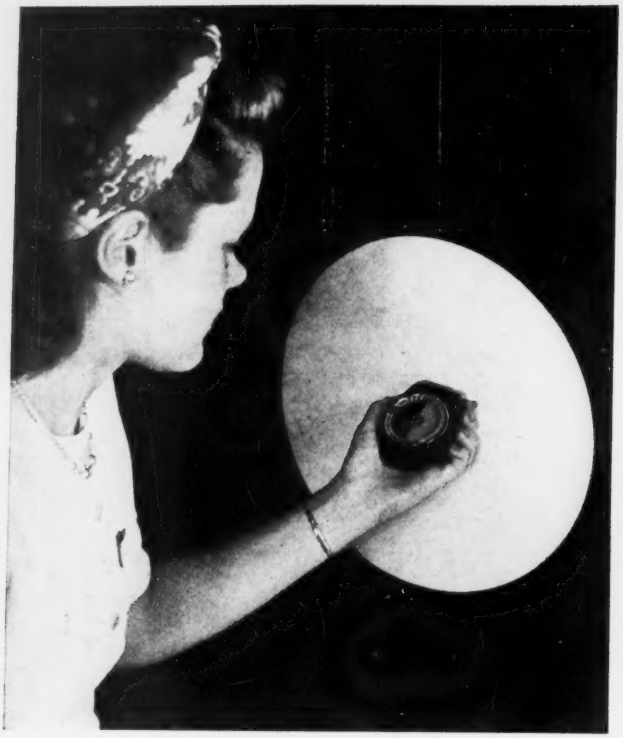
This war has been and will continue to be a war of men, as have all wars. In this war, however, as never before, men have been helped by measuring instruments.

The exposure meter is the measuring instrument of the photographer. It may be resolved into two units: one a light-measuring device, and the other a calculator to convert the measurement into terms useful to the photographer.

[1] General Electric Company, Schenectady, N. Y.

[2] For a description of the organization of this committee and the program it set up, see INDUSTRIAL STANDARDIZATION, January, January, 1944, page 8.

"Young man, this photography light meter shows your buttons are not shining brightly enough!"



The Test for Light Acceptance

The meter is first held against a properly illuminated opal glass screen, and the reading is noted

After the first reading, the meter is held 14 inches away from the screen and a second reading taken

Exposure meters have been available in the past in many types and have operated upon many principles. The ASA War Committee felt that the best single tool for the general use of the Armed Forces was a photoelectric exposure meter operating on the reflected-light principle. The photoelectric meter is distinguished by its ease and rapidity of reading, and by the fact that it does not depend upon the human eye to make the light measurement.

Choice of the reflected-light principle over the incident-light method was based on the experience and judgment of the committee, which indicated that it most nearly fitted the complete range of use required by the Armed Forces.

These decisions having been made, the program resolved into preparing a specification for a meter of this type which would most nearly meet the demands of the services in all parts of the world, under exacting conditions, and particularly after hard usage—conditions to which it might be unreasonable to subject a meter designed for civilian use. An obvious corollary is that any failure is far more serious than in civilian photography. Second, and equally important, was the requirement that the meters must be calibrated to read alike when used on the same scene in the same manner. This is essential so that the Army or Navy photographer will not have to learn different methods of use for each of many types of meters. At the same time it was desirable to obtain the above advantages within the least possible time, and, therefore, to minimize the amount of departure from existing types.

The final standards, it is hoped and believed, fill the above requirements. These standard requirements may be divided into four groups, and as a matter of fact have been so issued, as shown below.

Acceptance of Photographic Exposure Meters, Z52.21-1944

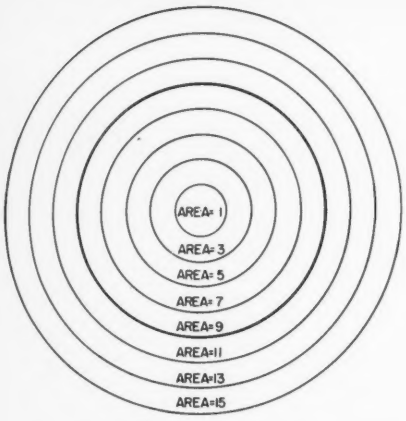
In reflected-light meters there have been great differences between different makes as to the effect of light entering the meter at different angles and being measured by it. The term "acceptance angle" has been widely used in an effort to define this variable, but no single angular measurement is really satisfactory because the light-restricting members of meters vary in their effect upon light entering the opening in a variety of ways. Some typical curves of angular response of present meters are shown in the right-hand figure, top of page 175, giving an idea of the variation involved.

The second figure at the top of that page shows graphically that for a series of equal increments in the angle of the cone of acceptance of a meter, the increases in the amount of light for the angular increments which are further from the direct axis of sight will have a much greater effect on the meter than the closer equal increments. Thus a meter which accepts light from too great an angle will not properly average the reflected light coming from the area to be photographed and will indicate an incorrect exposure.

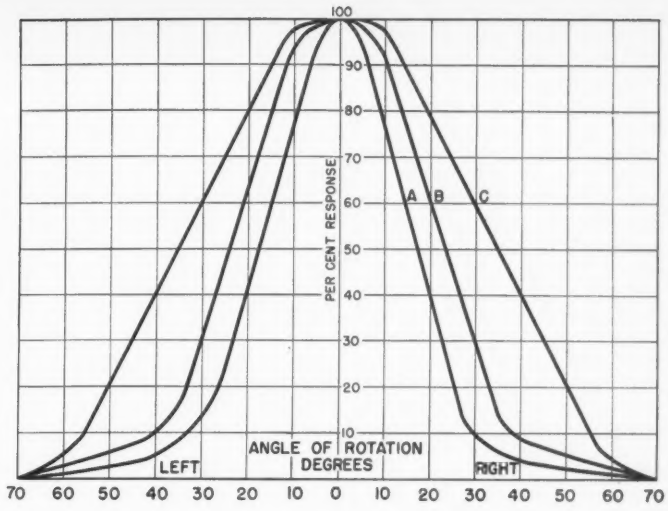
The result of work on this problem was a definition for acceptance of exposure meters in terms of amount of light entering the meter, as follows:

"1. Definition of Acceptance

"1.1 The acceptance of a reflected-light, photoelectric type photographic exposure meter is the ratio, expressed in percent, of the response of a meter to a screen of uniform brightness included within a cone whose half-angle is 25 degrees of arc and whose apex lies at the center of the front surface of the light-restricting member of the meter, to the response of the meter to a screen of the same brightness and having effectively an infinite area.



Cross section of cone of acceptance showing the disproportionate effect of light received from extreme oblique areas



Typical curves of angular response of present meters

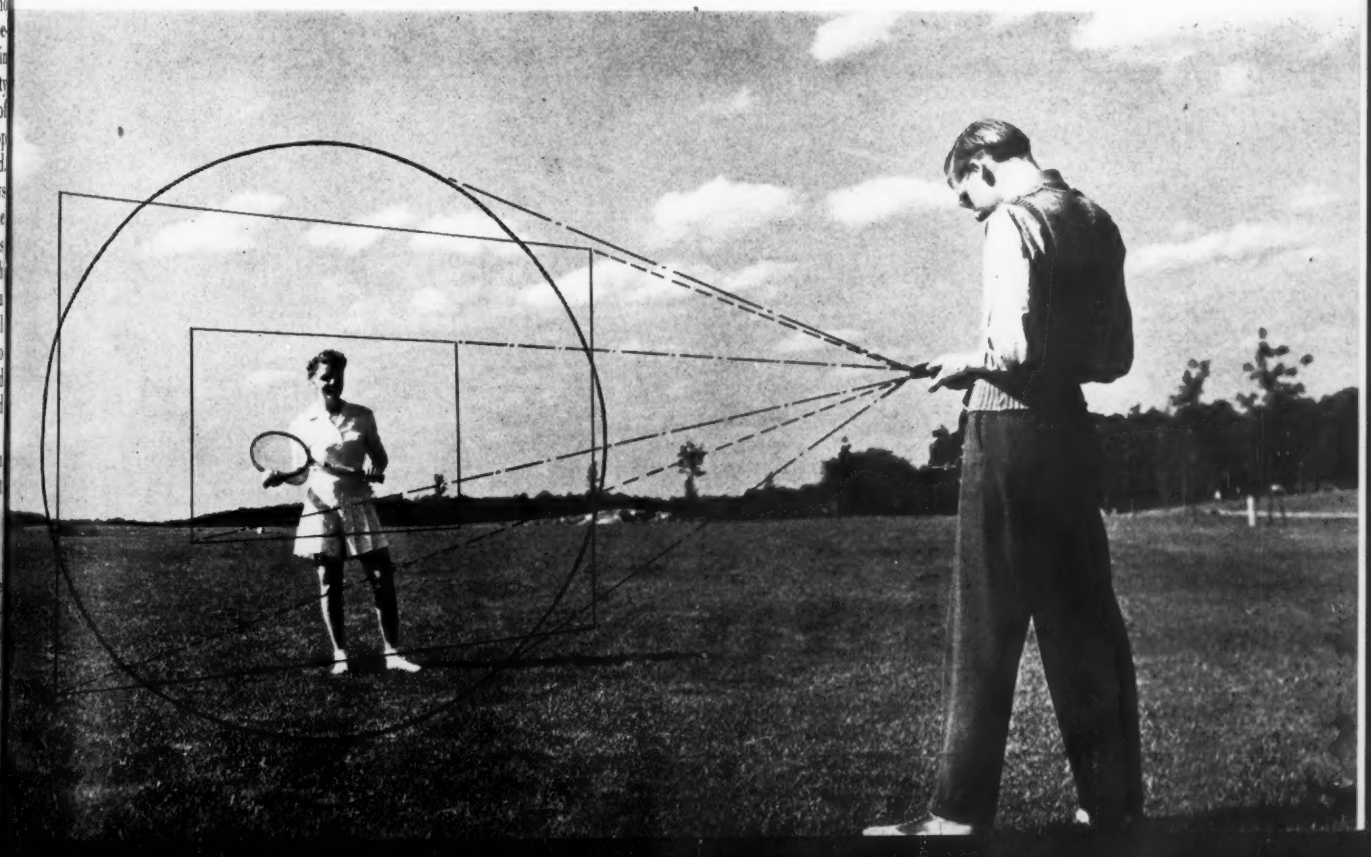
"2. Minimum Acceptance

"2.1 The acceptance of exposure meters used in general-purpose still and motion picture photography shall be not less than 60 per cent."

In the picture below on this page the circle represents the cone angle defined in the specification, and the two rectangles correspond to the ordinary still camera field and the ordinary motion picture camera field.

The actual measurement of acceptance is easily made by holding the meter against a properly illuminated opal glass screen, and noting the reading. The meter is then positioned 14 inches away from the screen, which is 13 inches in diameter, and again is read. The difference in reading is due to light entering the meter from a wider angle than that defined in the specification. The ratio is a measure of the proportion of energy from the specified angle. The two pictures on page 174 show how simply the test may be made. No limit as to the maximum restricting effect was set because increased restriction means a decrease in sensitivity or other desirable characteristics.

The circle represents the cone angle defined in the War Standard, and the two rectangles correspond to the ordinary still camera field and the ordinary motion picture camera field



Calibration of Photographic Exposure Meters, Z52.22-1944

Standardization of acceptance allowed an agreement to be reached on calibration as specified in American War Standard Z52.22-1944. This calls for a calibration of all meters in accordance with the following formula:

$$T = \frac{1.25\,A^2}{B \times S}$$

Where: A = Relative aperture of lens (f = number on meter)
B = Brightness of a uniform brightness surface expressed in candles per square foot
S = American Standard Speed Number or Exposure Index
T = Exposure time in seconds

The values were determined by a joint pooling of experience as well as a check of theoretical considerations, and are based on the use of exposure indices or American Standard speed numbers, whichever are available. Test equipment (see page 174) can also be used for this check and gives a simple way of making a spot check in field use. It is anticipated, however, that transfer methods will be used for actual production.

Specification for Service Model Photographic Exposure Meters, Z52.12-1944

The sensitivity necessary for the application was next defined as follows:

"E-1m. *Minimum instrument indication.*—The minimum instrument indication, corresponding to an exposure of 1 second at a relative lens aperture of $f/11$ with an exposure index of 100, shall be a pointer movement of 0.010 inch up-scale from the zero position."

Based then upon the above sensitivity, acceptance, and calibration limits, a detailed specification was prepared covering the outstanding features of exposure meters and setting up stiff performance requirements

Tumbling barrel testing an exposure meter for resistance to rough handling

Exposure meter being subjected to the shock test

under extreme conditions. Some of the more important of these may be listed as follows:

Requirements
Close initial accuracy
A particular spectral sensitivity characteristic
Low temperature influence
Small effect of high temperature (131 F)
Small effect of extreme cold (—31 F)
Small effect of high heat and humidity followed by condensation
No significant damage under severe vibration
No significant damage under shock (30 blows)
No significant damage due to severe physical abuse

Particular emphasis was laid on shock and abuse resistance. The shock test specified was that covered in the American War Standard, Shock-Testing Mechanism for Electrical Indicating Instruments, C39.3-1943, for combat instruments. A typical meter being subjected to the shock is shown above. The value of shock was chosen as 50 G (G = nominal value of acceleration in gravity units) or a condition in which every part is strained by a force equal to 50 times its own weight ten times in each of three directions.

In addition to all this, the calculator scale which correlates the instrument reading with the film exposure index and the shutter speed and lens aperture has been considerably simplified so that it may be read quickly and easily. Extraneous markings which serve to complicate many civilian-model exposure meters will be eliminated from the meters which will be furnished in accordance with this standard.

This specification has now been submitted to the Armed Forces Committee on Photography and Cinematography which has recommended that it be adopted as

a Joint Army-Navy Specification. It is expected that it will be approved with minor editorial changes as JAN-M-58 some time this month.

Abuse-Testing Mechanism for Photographic Exposure Meters, Z52.30-1944

It was recognized, however, that an exposure meter might receive much rough handling not necessarily in the nature of shock to the whole unit but which might break glass, or chip the case, or cause other similar damage. To guard against this, the meter must be built to stand the effect of placing it in a tumbling barrel revolving at 60 rpm for one minute (see page 176).

This tumbling barrel has been standardized and drawings prepared and included in American War Standard Z52.30-1944 so that it can be duplicated simply and easily.

The chairman wishes to express his appreciation of the work and effort put in by members of the subcommittee, and particularly to the members of the subgroup under the chairmanship of M. R. Russell of Eastman Kodak Company, who pooled their information in the most liberal manner, and made early agreement on acceptance and calibration possible. Members of this subgroup are A. T. Williams, Weston Electrical Instrument Corporation; Dennison MacDonald, DeJur-Amsco Corporation; and J. M. Whittenton, General Electric Company. Also, speaking for the subcommittee as a whole, we wish to express our appreciation of the help given by Captain L. T. Goldsmith, chairman of the Armed Forces Committee on Photography and Cinematography.

Argentine Sketch Drafts Translated by ASA

The following Sketch Drafts of proposed Argentine standards, drawn up by subcommittees of the Instituto Argentino de Racionalizacion de Materiales (IRAM) are now out for public discussion before being adopted by IRAM.

IRAM No.	*Title*	*No. of Pages*
536-P	Alloy Steels for Refining	3
1028-P	Chalk	1

For the convenience of its members, the American Standards Association has prepared its own translations in English and these are on file in the ASA Library. Photostat copies of the translations will be made available to Members at the cost of photostating. This amounts to 40 cents per page.

Menendez in United States To Collect Standards Data

Professor Jose Menendez Menendez of the University of Havana, and member of the committee charged with responsibility for organizing the new Cuban Department of Technical Standards, is in the United States collecting data for use in setting up the new standardizing body. He is working closely with the American Standards Association in collecting data on standards and on the experience of other standards organizations.

The new Department of Technical Standards is being set up by a committee under the chairmanship of Dr. Leon Aisenstein, director of the Cuban Department of Industry.

Subcommittee G Prepared Exposure Meter Standards

Four War Standards providing specifications and tests for exposure meters for military use, approved recently by the American Standards Association, were developed by Subcommittee G of the ASA War Committee on Photography and Cinematography, Z52. The standards now furnish a well-rounded program of specifications and tests for the manufacture of exposure meters which will give reliable light readings under the most severe service conditions.

The subcommittee which developed the four standards has the following membership:

F. K. McCune, General Electric Company, *Chairman*
S. L. Chertok, American Standards Association, *Secretary*
D. B. Clark, Research Council of the Academy of Motion Picture Arts and Sciences
Lt. G. A. Chambers, Navy Department, Photographic Science Laboratory
Capt. Edward Colton, War Department, Army Air Forces
J. B. Contner, Society of Motion Picture Engineers
Karl Freund, Photo Research Corporation
W. N. Goodwin, Jr., Weston Electrical Instrument Corporation
(R. T. Pierce, A. T. Williams, *Alternates*)
F. W. Jackman, American Society of Cinematographers
J. J. Kuscher, DeJur-Amsco Corporation
(Dennison MacDonald, *Alternate*)
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(D. R. White, *Alternate*)
G. C. Whitaker, Folmer Graflex Corporation
(V. E. Whitman, *Alternate*)
Lt. W. M. Zogbaum, War Department, Army Pictorial Service

Three of the new American War Standards on exposure meters are now available from the American Standards Association. These are:

Acceptance of Photographic Exposure Meters (Reflected-Light, Photoelectric Type), Z52.21-1944 10¢
Calibration of Photographic Exposure Meters (Reflected-Light, Photoelectric Type), Z52.22-1944 10¢
Abuse-Testing Mechanism for Photographic Exposure Meters, Z52.30-1944 25¢

The fourth American War Standard Specification for Service Model Photographic Exposure Meters, Z52.12-1944, is not yet available for general distribution.

Opinions Differ on OCR Standards for Low-Cost Clothing

TWO controversies centering around the use of standards are current in Washington today. One, which has to do with the use by the OPA Agricultural Marketing Administration standards for canned goods, is reported on page 181. The second concerns the standards which have been developed under a joint program of the War Production Board, the Office of Civilian Requirements, and the Office of Price Administration, under the sponsorship of the Office of Economic Stabilization, and which are intended to increase the amount of low-cost clothing on the market. The quality and amount of the fabric specified, the manufacturing standards, and the dollars-and-cents ceilings are all under fire.

Five standards have already been issued under this program—for men's shorts, men's shirts, women's house dresses, women's slips, and maternity slips and dresses.

This program is different from the regular low- and medium-grade clothing programs of the OCR in that it provides for manufacturing specifications for the garments produced under it, and also for dollars-and-cents ceilings on the items.

Those responsible for the program declare that only through the use of tight manufacturing specifications, vigilantly policed, plus dollars-and-cents ceilings also well policed, can an effective low-end clothing program be developed to help relieve the shortages in low-cost clothing.

"The war agencies are split into two camps on this controversial subject, as they have been since their inception," declares the *Daily News Record* in the first of a series of articles by Harry E. Ressequie explaining the opposing viewpoints on the subject. "Admittedly," the article continues, "the proponents of specifications and dollars-and-cents ceilings are in the minority. But, because of several recent reactions within the OPA, the size and importance of this group seems to be increasing at the moment, and its members are hopeful that, in the near future, they may be able to persuade Chester Bowles, Administrator, to invoke one of the powers granted to him under the Taft Amendment to the Commodity Credit Corporation Act of 1943, which he has not yet exercised. This is the power to order manufacturing specifications and dollars-and-cents ceilings for any item, when, in the opinion of the Administrator, it is impossible to accomplish the purposes of price control in any other manner."

Criticism of the standards themselves, however, comes from those who favor the program as a whole. H. D. Robinson, who resigned as Director of the Standards Branch of OPA, is quoted in the second article of the *Daily News Record* series, as making the following specific criticisms of the standards:

1. The quantity of fabric allocated by WPB and OCR for the five programs approved to date is so little as to be negligible.
2. No enforcement provision is contained in the order and no enforcement machinery has been set up by either WPB or OPA to see that the fabric allocated under this order goes in the end uses for which it is allocated.
3. The fabrics allocated to the program are unsuitable for the end uses to which they are put. "The general complaint is that the fabrics are too sleazy," Mr. Robinson said.
4. The standards of workmanship specified for the garments are too low to insure serviceability.
5. The ceiling price of low- and medium-priced garments should be such as to be within the reach of the average consumer.

"The suggested maximum price for the men's shorts under this program which came to OPA from WPB was 55 cents a garment. OPA fixed a price of 39 cents on the garment, and the feeling of the Standards Branch is that the garment does not give the consumer good value at that price," Mr. Robinson said. "The trade is very unhappy about the pricing of these garments, and some cutters have advocated holding back on production of the garments in order to force OPA to raise the retail ceiling."

The series of articles in the *Daily News Record* on the low-end program will continue with interviews of other individuals in the war agencies who hold opposing viewpoints on the subject. The first of the series was published August 22; the second August 25.

Wool Manufacturers Association Becomes ASA Associate Member

The National Association of Wool Manufacturers has just become an Associate Member of the American Standards Association. The association has been cooperating with the ASA for some years, having been represented on the committee that developed the Textile Safety Code in 1929. It is at present taking part in work on a standard for fastness of color in textiles and on a project to define the principles underlying valid certification and labeling of commodities.

The NAWM was established in 1864 to promote the advancement and prosperity of the wool manufacturing industry by stimulating and carrying on research, by acting on committees to formulate standards, by helping to guide legislation in drafting laws relating to or affecting the industry and by providing information pertaining to the wool industry.

The president of the NAWM is Arthur Besse; Walter Humphreys is the secretary, and Edwin Wilkinson, assistant to the president, is representing the association on the ASA committees.

An associate membership in the ASA keeps the member organization in close touch with all the phases of the work as it develops. Members are entitled to send representatives to Standards Council meetings and they receive all the material circulated on the progress of projects. Subscriptions to INDUSTRIAL STANDARDIZATION and a free copy of each new American Standard are sent to them regularly. Members have free access to the ASA library of 20,000 American and foreign standards and related publications, and they may request general information on standardization work at all times.

Chile Holds Preliminary Meeting To Organize Standards Association

A new national standards association—the Asociación Chilena de Normas—has just held its preliminary meeting and has appointed a provisional Board of Directors to serve until the final organization is completed. The preliminary meeting at which the new association was launched was sponsored by the Chilean Institute of Engineers and other important Chilean organizations. The provisional Board of Directors, in addition to its work of setting up the Asociacion Chilena de Normas and opening the registration of members, is planning to start immediately to organize technical committees for work on standards. Among the first subjects to be considered, it is expected, will be cartographic drawing, technical drawing, preferred numbers, tolerances, lumber, and cement.

The association is publishing a magazine on Chilean standards, entitled *Normalizacion*.

Canadian Standards Association Considers Standard Letter Symbols

In order that technical publications may be more readily understood in international exchange of information, a group of American Standard letter symbols and graphical symbols, approved by the American Standards Association, is being considered for approval by the Canadian Standards Association.

The standards under consideration are:

Letter Symbols for Heat and Thermodynamics, including Heat Flow, Z10.4-1943

Graphical Symbols for Power, Control and Measurements, Z32.3-1943

Graphical Symbols for Telephone, Telegraph and Radio Use, Z32.5-1942

Graphical Electrical Symbols for Architectural Plans, Z32.9-1943

The Subcommittee on Abbreviations and Symbols of the CSA, to which the standards were first referred, has recommended their adoption as Canadian Standards.

Argentina Creates National Technological Institute

The Argentine Government recently published a decree creating a National Technological Institute (Instituto Nacional de Tecnología). It is expected that the new government institute will have two sections, one for research and the other for technical matters, each with a managing director. Reports from Argentina indicate that the whole organization will be administered by a board composed of a general manager and the directors of the two sections. Industrial firms and business houses may become members of the Institute, as well as other organizations which have been approved by the Executive Power of the nation.

American War Standard For Paper Capacitors

FIXED paper-dielectric capacitors play an essential role in the rectifier-filter systems used in changing alternating current to direct current for operating vacuum tubes in radio-electronic equipment. A War Standard on these capacitors has recently been approved by the American Standards Association.

This is one of the last of the series of standards developed by the War Committee on Radio at the request of the War Production Board. It provides complete purchase specifications for capacitors of the types used by the Armed Forces in the design of equipment for military and naval service. It has been approved by the Signal Corps of the U. S. Army and by the Radio Division of the Bureau of Ships of the Navy Department for use as a purchase specification.

While all manufacturers employ the same paper for the basic dielectric of these capacitors, several different impregnating materials are commonly used. The characteristics of capacitors manufactured with different impregnants vary somewhat at room temperature. They vary greatly, however, in some cases, at both the elevated and the extremely low temperatures that are encountered in wartime service.

The standard provides for eight different classes of impregnants. It presents, for the first time in compact tabular form, data on the maximum percent of the normal rated operating voltage at +40C (+104F) that may be applied to capacitors in each impregnant class at temperatures between —55C (—67F) and +105C (+221F) for a specified life expectancy. Variations with temperature in insulation resistance and in capacitance are also covered for the various impregnant classes.

It is expected that this standard will be used by the Armed Forces not only in the design of new equipment but for replacement purposes as well. Special provisions were made to include in it replacement capacitors for those already in extensive service.

This new American War Standard, Fixed Paper-Dielectric Capacitors (Hermetically Sealed in Metallic Cases) C75.16-1944 was prepared by representatives of the Armed Forces and industry. It may be obtained for 50 cents a copy from the American Standards Association, and free of charge, for procurement purposes only, from the government agency involved.

Van Domselaar Dies, Was ASA Representative in Uruguay

It is with sincere regret that the American Standards Association has received word of the death of C. L. Van Domselaar, manager of the U.S. Chamber of Commerce in Uruguay and ASA local representative there. Mr. Van Domselaar had been ill for many months following a serious operation last year.

Diego L. Allen, who succeeds Mr. Van Domselaar as manager of the United States Chamber of Commerce of the United States in Uruguay, has also been appointed as the local representative of the American Standards Association in Montevideo.

Robinson Resigns As OPA Standards Director

As a result of what he called a "do-nothing" policy, Harry D. Robinson, director of the Standards Division of the Office of Price Administration, resigned August 31. His resignation was "in protest against a lack of action on my recommendations aimed at protecting the public, and the tendency of Congress to oppose price control," he told reporters. His protest centered particularly around the recent ruling of the Comptroller General prohibiting OPA to use Agricultural Marketing Administration grades in pricing canned goods (see page 181), and around the fact that OPA has not adopted a uniform policy of pricing textiles and consumer durable goods according to grade. He has specifically taken issue with recent standards for low-end clothing set up by the Office of Civilian Requirements, which are being used by OPA in price control orders (see page 178).

Mr. Robinson has been head of the Standards Division since June, 1944, succeeding Dickson Reck, who is going to China as advisor to the Chinese Government on standards for the post-war industralization of China. Mr. Robinson leaves OPA to take a position with the Cotan Corporation of Newark, N. J., makers of rubber products and fabrics.

Request Initiation of War Project on Radio Noise Measurement

Initiation of a project, under the ASA War Procedure, to develop uniform methods of instrumentation for determining radio noise influence generated by equipment was recommended by a conference of interested individuals and organizations in New York on August 16.

The conference was called to discuss the request for such a project by the Joint Coordination Committee on Radio Reception of the Edison Electric Institute, the National Electrical Manufacturers Association, and the Radio Manufacturers Association.

Attending the conference were representatives of the War and Navy Departments, the Aeronautical Board, the Federal Communications Commission, the National Bureau of Standards, the National Aircraft Standards Committee, the American Transit Association, the Association of American Railroads, the Telephone Group, the National Electrical Manufacturers Association, the Edison Electric Institute, the Radio Manufacturers Association, and various interested radio and electrical manufacturing companies. Also present were representatives from the Canadian Department of Transport, the Canadian Standards Association, and the Canadian Department of Munitions and Supply.

Charles Rufus Harte, chairman of the Electrical Standards Committee, was present at the conference and has recommended the initiation of the project to Dr. H. S. Osborne, chairman of the ASA Standards Council. Dr. Osborne is now considering the recommendations.

Revisions of Mining Standards

As a result of a review initiated by the Mining Standardization Correlating Committee of the ASA, steps are now under way to revise several mining standards. These include:

Electrical Equipment in Coal Mines M2-1926
Outside Coal Handling Equipment M10-1928
Wire Rope for Mines M11-1927
Ladders and Stairs for Mines M12-1928

The American Mining Congress and the Bureau of Mines, Department of the Interior are joint sponsors for the first standard. The American Mining Congress is sole sponsor for the other three.

Drafts of proposed revisions to serve as a basis for technical committee work have been prepared for three of these standards and a draft for the fourth is in preparation. The sectional committees in charge of the four projects have been reorganized and the drafts will be circulated soon to all members of these sectional committees.

New Foreign Standards Now in ASA Library

THE following new and revised standards, just received by the American Standards Association from other countries, may be borrowed by ASA Members, or ordered through the ASA Library. The standards are published in the language of the country from which they were received.

Great Britain

Aluminum Alloy Sections BS1161:1944
Clinker Aggregate for Plain Concrete BS1165:1944
Cotton Fabrics for Rubber Footwear BS1167:1944
Mastic Asphalt BS1162:1944
Protective Painting of Iron and Steel BS1160:1944
Tapping Drill Sizes BS1157:1944

Revised Standard

Copper Alloy Ingots and Castings BS1021-8

Amendment Slips

Flameproof Air-Break Electrically Operated Gate End Boxes PD220 to BS787
Flexible Cables for Miners Cap Lamps PD210 to BS937
High Quality Hard Drawn Spring Wire PD218 to STA3
Special First Quality Hard Drawn Spring Wire PD217 to STA1
Standard Quality Hard Drawn Spring Wire PD219 to STA4
Turbine Oils PD211 to BS489

Draft Standards

Coarse and Fine Aggregates from Natural Sources for Concrete CG(STB) 6941
Concrete Flooring Tiles and Fittings CG(CEB) 6820
Concrete Plain Roofing Tiles and Fittings CG(CEB) 6879
Glass for Glazing and Fixing of Glass for Buildings CG(B) 6756
Gypsum and Anhydrite Building Plasters CG(CEB) 7046
Wood Stairs CG(TIB) 6869

Argentina

A list of 109 standards which are now being prepared or are under study by the Instituto Argentino de Racionalizacion de Materiales (IRAM) has been received by the American Standards Association Inter-American Department in New York. A copy of this list may be consulted by American Standards Association members at the New York office.

Presentation of Ordnance Distinguished Service Award to the American Standards Association

by

Brigadier General Stewart E. Reimel

IT IS A PRIVILEGE to be here today as the representative of the Chief of Ordnance for the purpose of presenting the Ordnance Distinguished Service Citation to the American Standards Association. This presentation is an attempt by the Ordnance Department of the Army to acknowledge the contribution which the Association, and its member organizations and groups, has made to the mass production of Ordnance materiel.

The victories now being won in Europe and Asia and the Southwest Pacific could never have been achieved unless the valor and skill of our soldiers were equalled by the quality of their weapons, and unless those weapons were available in the quantities required to do the job.

In these victories the mass-production technique of American industry has had a vital share. In the development of our mass-production methods, and especially in the speedy utilization of our tremendous peace-time industrial facilities for war work, the standards developed through the American Standards Association and its cooperating groups have contributed immeasurably.

The all-out war effort which was forced upon our unprepared nation required standards of mass production unequalled in our industrial history.

In addition to the great industries experienced in production for world-wide markets, the assistance of other manufacturing facilities of all sizes was essential to the task that confronted us. Here in New York, especially, we are familiar with the outstanding war work done by the Smaller War Plants. The conversion of all these peacetime industrial facilities to the production of war materiel required the existence of production standards that would ensure the teamwork so essential to the gigantic task.

The procurement list of the Army Ordnance Department alone includes some 2,200 separate major items. Nearly 400,000 different kinds of spare parts are needed to keep them all in repair.

We had to be sure that the manufacturers of all these components would produce them according to standards that would ensure conformance to the specifications.

That these standards of production did exist is in large measure the result of the work that the American Standards Association has done during the past twenty-six years.

Where new emergency war standards were required, the machinery of the Association was at the service of the government to produce the required standards in record time.

Since Pearl Harbor, the development of more than 100 emergency war standards has been undertaken by the Association. Some 86 of these have been completed and are now in use.

For the Army and Navy these war standards have been developed to solve specific procurement problems; to aid in the design of new equipment; to help protect workmen in their plants; to enable both services to use identical specifications and thus simplify inspection problems; and to help make spare parts interchangeable in the field.

The Association's war work has also aided industry in broadening its sources of supply, in subcontracting, in production control, in training employees, in preventing accidents and industrial diseases; in fact, in the whole production process.

The War Production Board has enlisted the aid of the Association in developing standards to form the basis of limitation and conservation orders. The Office of Price Administration has used its standards in price regulations and in rationing.

Some specific jobs undertaken by the Association at the request of the Army Ordnance Department might be mentioned here.

These were the development of standards providing statistical methods for quality control in mass production. They enable a manufacturer to determine, with the aid of a control chart, whether things are running smoothly or whether he should be on the lookout for trouble in the production process. They are applicable to the whole range of Ordnance production — from the

explosives that go into artillery shells to the manufacture of the guns that fire them, as well as to all the thousands of components required in our procurement program. We are using these new standards increasingly, and are training inspectors and other personnel in their application. These quality control standards, incidentally, have been adopted verbatim by the national standardizing bodies in Australia, Canada, Great Britain, and South Africa.

Other war standards of the Association cover radio and radar components, electrical instruments, different types of screw threads, pipe fittings and valves, photography, safety codes, and safety and industrial clothing.

The principle of standardization has long been a tradition of Army Ordnance. It was the influence of the Ordnance Department and the handiwork of the New England gun makers early in the 19th century which brought to rifle design and production the principle of interchangeability of parts. That principle, born of the musket, carbine, and the shoulder rifle, is today responsible for the mass production through which American industry has attained the very pinnacle of higher quantity output with lower unit cost. Our military supremacy today — like our industrial supremacy — rests firmly upon the doctrine of interchangeable parts which Eli Whitney, working in conjunction with Army Ordnance, developed decades ago.

The work of the American Standards Association in spreading this doctrine, and in bringing its benefits to ever widening fields of industry, has been an incalculable contribution to the achievements of the Industry-Ordnance team in providing our Army with weapons and firepower unsurpassed by those of any other nation.

It is our hope and firm belief that this great work of providing standards for industry will be carried forward with undiminished zeal in the post-war years. The continued advancement of American industry, with which our national security and our national defense are so closely bound, can be served in no better way than by extending the formulation of standards which have been so essential to our successful war production program.

In recognition of outstanding and meritorious engineering and advisory services in war and peace, for the development, manufacture, and maintenance of Ordnance materiel, I am privileged to present to the American Standards Association the Ordnance Distinguished Service Citation.

Acceptance of Award

by

Henry B. Bryans

President, American Standards Association

ACCEPTING this Distinguished Service Award from the Ordnance Department on behalf of the American Standards Association, I wish to express the deep appreciation of the Association for this signal honor. However, in accepting the Award from your hands, General Reimel, I am merely acting as a channel of transmission to the numerous groups and individuals who have actually done the work.

First of all, there are the 80 national trade, technical and governmental groups that make up the federation that is the American Standards Association and the many other cooperating bodies that are collaborating in the work.

There are more than 3,000 men and women who are giving the time from their own work to serve on the various technical committees and on the special war committees. Some of them are here today. I wish they could all be here to share in this honor first hand.

There are the correlating committees that have had so much to do with the planning of the work and in coordinating the hundreds of undertakings of the American Standards Association in war and peace, in order that all of the resulting American Standards shall form a consistent industrial pattern.

Then there is the ASA staff — seventy devoted men and women who, behind the scenes, do so much to smooth out the kinks, and to keep the wheels going.

So many organizations and individuals are responsible for our gathering here on this very happy occasion today that it would be unfair to single out any few of them for special mention, since we cannot name them all. All this technical work, however, heads up in the Standards Council, on which sit representatives of the organizations that form the ASA. Dr. Osborne, the chairman of the Standards Council, will say a word about the work of the Council and its underlying membership.

Ordnance Distinguished Service Award

presented to

American Standards Association

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Award Authorized 20 July 1944

MAJOR GENERAL, U.S. ARMY
CHIEF OF ORDNANCE

MAJOR GENERAL, U.S. ARMY
CHIEF, RESEARCH AND DEVELOPMENT SERVICE

MAJOR GENERAL, U.S. ARMY
CHIEF, INDUSTRIAL SERVICE

BRIGADIER GENERAL, U.S. ARMY
CHIEF, FIELD SERVICE

BRIGADIER GENERAL, U.S. ARMY
CHIEF, MILITARY TRAINING SERVICE

The War Work of the ASA

by

Dr. H. S. Osborne

Chairman, ASA Standards Council

IT IS AN HONOR to represent the members of the Standards Council and to express their thanks for the generous recognition of the standards work given us by the Ordnance Department.

The Standards Council is only a link in the chain of organizations and individuals involved in the development of American Standards. We, the members of the Council, are not the people who do the work. We approve work when it has been done by others and receive on their behalf the thanks and congratulations of the Ordnance Department. The real workers are the 3,000 members of the technical committees.

These members of technical committees are chosen by the organizations associated together to formulate the standard because they know a great deal about the subject matter of the proposed standard, because they have ability, and because they can work effectively with others. They are busy men and women. The preparation of a standard is just an added load in a schedule already heavily loaded. It will be a gratification to them, giving voluntarily of their time, to have this justification of their own judgment of the value of spending time and energy on this work.

I wish to add a personal word of appreciation of the importance of the function of the staff in this process. They do not make the standards but they act as a catalytic agent. Their activity is essential for a satisfactory rate of progress in the reaction of mind and mind and the process of synthesis of ideas which is the formulation of an American Standard.

While the Standards Council does not do the work of preparing standards, we do claim to set up and maintain some helpful machinery and to provide a certain amount of power and lubrication. A year before Pearl Harbor the Association adopted an emergency wartime procedure designed to expedite the production of wartime standards. General Reimel has made reference to the results which have been achieved.

In addition to the war procedure a great deal of work is continuing under the regular procedure of the Association directed particularly to standards of immediate use in connection with the war. Most, if not all of the 357 standards adopted since Pearl Harbor were of value in connection with the war effort in one way or another. More than half appear to be of direct interest to the Ordnance Department.

At the present time the war work of the American Standards Association is in full blast. The staff estimate that three-fourths of the total activities relate directly to war work and much of the rest might be classed as helpful to the war because of its effect in aiding production. We hope to continue on this basis until after both V days.

This recognition of the contribution which various people and organizations have made to the standards work of the American Standards Association would not be complete without making special note of the work done by the various war agencies concerned. The Army Ordnance Department itself has not only stimulated the production of standards but takes an active part in their formulation. Not only have they appointed representatives to participate in this work but also their representatives have actively participated and been of real help.

This complete circle of collaboration is an illustration of the way things operate under our democratic institutions when people are united voluntarily for a common end. In the making of these standards competitors sit down together — representatives of industry, of science, of government, of labor, and of the people as a whole, and just plain experts who know all about the subject matter. These men and women, often of diverse interests, pool their efforts for the common purpose of making a contribution to the war effort.

This illustrates in one specific field the unity which is general in our country and which is the great strength of America in these days of trial and of victory.

September 14, 1944

Bowles Asks Congress to Rescind Ban on Canned Goods Standards

PRICE Administrator Chester Bowles has appealed to Congress to reverse its ban on the use of Government standards in pricing canned goods.[1] His appeal was presented in a letter, September 4, to Representative Cannon, chairman of the House Appropriations Committee. He declared that the ban on AMA (Agricultural Marketing Administration) grades "makes impossible proper enforcement of price ceilings on canned fruits and vegetables and makes the American consumer the victim of widespread price increases."

The prohibition is contained in the Appropriations Act of 1944 which specifically prohibits payment of salaries to persons setting prices on canned goods on the basis of specifications or standards "not in general use." An interpretation by the Comptroller General extends this prohibition to the use of standards prepared by the Agricultural Marketing Administration.

Mr. Bowles' letter said that several members of Congress had requested him to "reopen this question if on further study I was still convinced that my fears as to the effect on the cost of living were justified."

"After six weeks of fruitless effort to find a pricing solution which will be fair to the industry and at the same time will give the consumer the price protection which, I am sure, Congress intended under the stabilization acts, I am now writing earnestly to request that your committee recommend to the House of Representatives a change in the present law which will make it possible to correct the present situation," Mr. Bowles continued.

He told Mr. Cannon that the problem is particularly important because civilian buyers are probably not going to get a very large proportion of the better grades of canned fruits and vegetables this year. The Armed Forces are now taking nearly all of the middle grade, and as a result the great bulk of the sales to consumers will necessarily be of the lower grade. The prohibition on the use of standards has left OPA without any workable method of preventing the upgrading of this lower grade to the top or at least to the middle grade, he said.

What Upgrading Means to Consumers

What upgrading of canned goods would mean in increased prices to consumers was explained by Mr. Bowles, when he said:

"Typical prices for the 1944 pack show the price for the extra-standard grade exceeding that for the standard grade by percentages running from 8 to 16, and the price for the fancy grade exceeding the standard price by percentages of from 17 to 30."

"The AMA grades are not in a true sense a separate system of grades," Mr. Bowles declared, "although they are often so considered. They are rather Government specifications for the established and universally recognized commercial grades. That is why the term 'U. S. Standards,' which is the correct description is more appropriate than the popular term 'AMA grades'. The U. S. Standards describe in writing, in the fullest practical detail, what the requirements, or specifications, are for each of the established commercial grades. They use the commercial designations of the grade—that is, fancy, extra-standard (or choice), and standard, although they also permit the alternative letter designation, A, B, and C."

Federal Specifications Used by Army

"One of the unfortunate aspects of the problem pertains to the pricing of sales to Government procurement agencies," Mr. Bowles continued. "Recently we have had under consideration a proposal that we use Federal specifications as a basis for pricing these sales. The Army, for example, like other Government procurement agencies, has always purchased on Federal specifications based on United States standards. Even the canning industry has expressed its desire to sell on the basis of Federal specifications in this kind of transaction. However, in view of the administrative infeasibility of maintaining parallel systems of pricing based on two systems of grading, we have felt impelled to reject the proposal, unless the same standards can be used in pricing civilian sales."

There is still time, Mr. Bowles told Mr. Cannon, "to develop for at least part of the pack the type of price control which we had planned last winter, which at that time was widely acclaimed throughout the industry, and which in our opinion will give to the consumer the kind of protection which I am sure was Congress' intent.

"Failing such action, I am bound to advise you that we will not have this kind of fair and at the same time genuine and effective price control in the field of processed fruits and vegetables."

Mr. Bowles declared that the proposed use of U. S. standards by OPA does not mean that OPA intends to force "grade labeling" upon the canners. "Even if this agency were inclined to require the statement of grade upon labels, the Taft amendment prevents us from doing so," he said.

Following Mr. Bowles' appeal to Congress, the National-American Wholesale Grocers' Association announced that it will protest the effort to change the ruling to permit the use of U. S. Government standards. Canners said that the National Canners' Association would also join in the protest and brokers declared that the National Food Brokers' Association would also object.

"Buyers for wholesale grocers said the adoption of Government grades for pricing purposes would destroy the goodwill, built over years and at great expense, be-

[1] See "OPA Use of Standards Still in Controversy," INDUSTRIAL STANDARDIZATION, August, 1944, page 155.

cause the competitive tendency would be to pack down to the lower limit of a grade," the *New York Times* reports. "The step advocated by Mr. Bowles, they pointed out, would be prejudicial to the whole grade labeling question. Buyers have been accustomed for years, they explained, to buy according to sample, and the law requires adherence to commercial practice and they want no arbitrary grading."

"If Mr. Bowles is correct in his contention that there is no substantial difference between Government and commercial grades," a broker asked, "then why cannot OPA set up a pricing formula based on commercial grading?"

On this point Mr. Bowles' letter stated: "One of the first steps we took was to renew the appeal which we have frequently made to the industry that since it was dissatisfied with the Department of Agriculture's attempt to reduce the requirements for the various grades to writing, it should itself put in writing its understanding of those grades. This proposal was put to an advisory group for canned peas on July 6, 1944, accompanied by a tentative draft of specifications. The industry refused even to consider the draft, and made clear that it was opposed to being bound by any written standards what ever."

American Home Economics Association Appoints Executive Secretary

Lelia M. Massey has been appointed executive secretary of the American Home Economics Association as of September 1, 1944. Miss Massey supervised home economics activities in the Bureau of Home Economics of New York State for several years. Prior to her work in New York, she was state supervisor of home economics in Montana.

The American Home Economics Association has been a member of the ASA since 1929 and has been active in the standardization of consumer goods for an even longer period.

Standardization Made Possible "Cannibalization" of War Equipment

"Standardization, precision manufacture, parts interchangeability—these have played a vital part in many an Allied victory so far in this war. In those early months when 'too little and too late' summarized defeat after defeat, the men on many a battlefront often held their wavering lines by 'cannibalization', the makeshift practice of assembling usable parts from wrecked machines to build a 'new' machine. General Chennault's 'Flying Tigers' accounted for many Jap Zeros in such rebuilt fighter planes. Marshal Rommel's 'Afrika Korps' was held with such salvaged equipment.

"Recalling his experiences with the 'Flying Tigers' in those days when all the remaining planes were 'cannibalized' products, one engineer says:

" 'Every time this trick was pulled I said a little prayer for American standardization and interchangeability'."

—From Automotive War Production, August, 1943

National Bureau of Standards Starts Project on Package Skids

At the joint invitation of the National Bureau of Standards and the Bureau of Foreign and Domestic Commerce a meeting was held at the U. S. Department of Commerce August 16 which recommended that the Department of Commerce undertake a program for the simplification and standardization of pallets and skids used in handling packaged merchandise in wholesale quantities.

The need for such a program has been revealed in a study by the Bureau of Foreign and Domestic Commerce, it was announced. This study shows that while skids and pallets are widely used in the wholesale grocery trade, there is no standardization of dimensions, the Bureau reports. With standardization, the Department believes, there may be further opportunities for lowering costs through a reduction in the number of case-by-case handlings.

A Navy representative told the meeting that the Navy has found it possible to load pallets at the manufacturing plant and carry them intact to beaches in the South Pacific. Simplicity, reduced handling, and greater speed were thus achieved. A carlot of palleted goods could be unloaded by a lift truck in 57 minutes whereas 15 hours had been required to handle such goods by the case. The meeting believed that although the experience of the Army and Navy might not be directly applicable to commercial activities, it might be adapted to the advantage of all concerned.

ASA Committee Recommends Arrangement for Building Codes

A revised edition of the *Building Code Arrangement*, originally issued in 1939 to serve as a guide in developing building code requirements, has now been completed and issued by the Building Code Correlating Committee of the American Standards Association. The *Arrangement* lists 17 chapter titles, corresponding roughly to the subjects of standards which are now being developed by technical committees under the supervision of the Building Code Correlating Committee. Supplementing the chapter titles are subjects listed as sections in each chapter, indicating the material which customarily is included in building codes. The titles of these sections and the order in which they appear are subject to change, but in general they are in accord with the present work of the Building Code Correlating Committee and the technical committees.

The *Arrangement* has been prepared by the BCCC not only for the use of its own committees but also for municipal committees and officials in connection with the preparation and revision of local building codes. It provides a framework for the effective use of standards completed and in course of development by the BCCC committees and is intended to help provide a complete, coordinate series of requirements. It has already been widely circulated to building groups and others interested in building codes, but copies are still available without charge from the American Standards Association.

Standard Dimensions Now Published For Glass Plates and Sheet Films

IN addition to the ordinary problems of production and the special problems associated with the making of a precisely composed, perishable product, the manufacturer of photographic films and plates has to cope with two extraordinary conditions. First, almost the entire process must be conducted either in total darkness or with the aid of very dim red, green, or amber light. Secondly, units of the product in most cases cannot be sampled, inspected, tested, or measured without destroying them. The more tests the manufacturer makes, the less product he has left to sell.

Simplification of Sizes Boon to Producers

Film and plate manufacturers, therefore, are expected to welcome the recently approved American Standards for photographic glass plates and for sheet films in several commercial categories since these standards limit the number of listed sizes and emphasize those in widest commercial use. The simplification of size lists by the elimination of obsolete and seldom used sizes is a boon to producers who, in some cases, must interrupt and delay production to clear a darkroom of sensitized material and turn on bright lights needed for accurately changing over cutting machines from one film size to another.

The publication of these standards, for the first time, gives the public (and even the sales representatives of the film manufacturers, in some cases) data on the dimensional limits or cutting tolerances for photographic sheet films. The dimensional standards will aid in the identification and eventual elimination of troublesome "off size" film holders and will guide manufacturers of cameras, film holders, enlargers, processing equipment, and filing equipment in their future developments.

The general public, having an everyday acquaintance with photographic films, may believe that photographic glass plates are obsolete and extinct. On the contrary, photographic glass plates are an important item in the photographic industry today and are regarded as indispensable for some purposes. In the graphic arts trades, in the fields of spectroscopy, microscopy, and astronomy, glass plates are widely used, and recently, due to the WPB restrictions on the manufacture of films for civilian use, the portrait and commercial photographic business has seen a revival of interest in glass-plate negatives.

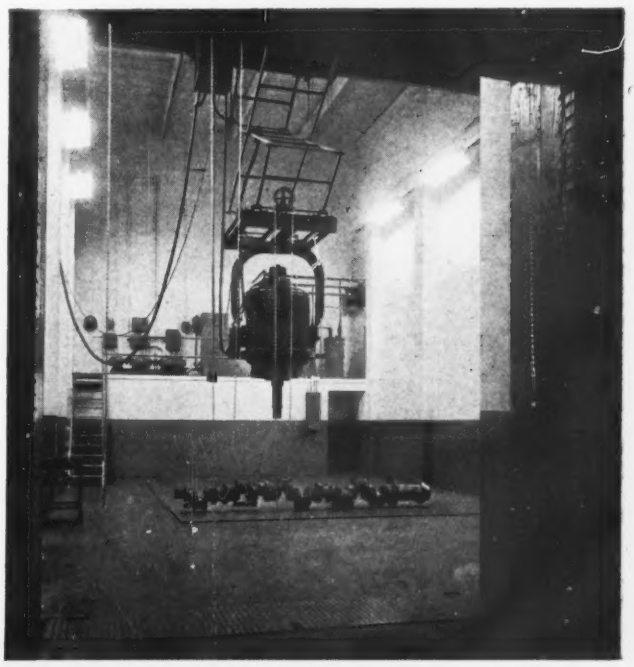
Standards Give Sizes Most Widely Used

Two standards, one dealing with inch sizes and the other with centimeter sizes, recognize the sizes of phtographic plates most widely used in the United States, specify their dimensional limits, and provide a tolerance for out-of-squareness. These standards take into consideration existing European standards, with modifications based on the types of glass available from American glass manufacturers which are not identical with European practice as represented by the glass sheets imported by this country before the war.

The wartime armament program has enormously stimulated the field of industrial radiography. Mechanical parts for military aircraft, automotive equipment, ships, and amphibious craft are inspected by radiography. U. S. Government specifications in increasing measure require the contractor to furnish X-ray pictures or radium exposures of his products as inspection records. In the ordnance field the use of radiographic examination and inspection has burgeoned. American leadership in the design of X-ray electrical equipment has provided new methods for surer quality control of armament units and is providing our fighting forces with deadlier weapons by discovering "duds" in the manufacturing plant instead of on the battle field.

American Standards for sizes and dimensional limits of industrial X-ray films will guide the armed forces in purchasing industrial X-ray films so that they will obtain prompt service on standard sizes and avoid the waste, delay, and higher costs occasioned by odd-size orders. Designers and manufacturers of film cassettes (exposure holders), film-processing equipment, viewing boxes and accessory roentgenographic equipment now have American Standards to guide them instead of relying on measurements made on samples at hand which might have been shrunken by age and storage conditions or cut the wrong size in the first place.

A million-volt industrial X-ray unit, mounted on an overhead bridge crane, for radiographic inspection of large, heavy specimens



Trade practices in the field of medical radiography have pretty well established film sizes. Publication of dimensional standards for medical X-ray films, however, will serve to prevent newcomers in the field from costly mistakes like the one recently made by an American electrical manufacturer. Under the stimulation of U.S. Government orders and in the absence of dimensional standards for guidance, this manufacturer fabricated a quantity of wrong size film-developing hangers that possibly did fit the particular films he measured but do not fit the average run of standard size films.

In the fields of commercial photography, portraiture, and amateur photography with "landscape" cameras, the use of photographic films originally was as a substitute for glass plates. Holders for glass plates, permitting daylight loading and reloading of the camera, were adapted to the use of photographic films by means of "sheaths." These were of metal and made up for the difference in thickness and stiffness between film and glass. Since the "sheath" was the same size as the glass plate, the film held within the sheath had to be slightly smaller on both dimensions. Later, when film holders designed primarily for films came on the market, they were made to fit the "undersize" films that were already in use.

The American Standard Dimensions for Professional and Commercial Sheet Film recognizes in its Foreword the standardizing opportunity to bring the actual film sizes more in accord with the nominal sizes. It concludes, however, that the vast amount of equipment in use throughout the world would make it impractical to standardize on the ideal condition. Recommendations are made, however, that any new sizes added in the future should establish the nominal size as the maximum dimensions and allow a suitable minus tolerance. Some 25 sizes are recognized by this standard, covering films used by portrait studios, press photographers, commercial illustrators, rotogravure houses, amateur photographers, the Armed Forces and others.

Seven American Standards have now been approved specifying the dimensions of photographic glass plates and sheet films, and limiting the number of standard sizes. These standards have been prepared by the ASA Sectional Committee on Standardization in the Field of Photography, Z38, working under the sponsorship of the Optical Society of America. Already this committee has developed 55 other American Standards. The seven new standards are:

Dimensions for Industrial X-ray Sheet Film (Inch Sizes)	10¢
Dimensions for Graphic Arts Sheet Film (Inch Sizes)	10¢
Dimensions for Medical X-ray Sheet Film (Inch and Centimeter Sizes)	10¢
Dimensions for Professional Portrait and Commercial Sheet Film (Inch Sizes)	10¢
Dimensions for Professional Portrait and Commercial Sheet Film (Centimeter Sizes)	10¢
Dimensions for Photographic Dry Plates (Inch Sizes)	10¢
Dimensions for Photographic Dry Plates (Centimeter Sizes)	10¢

Loyd A. Jones, Eastman Kodak Company, is chairman of the committee.

Argentine Engineering Societies Hear Brady on Standards

An article about the problems and methods of translating business and technical documents by Cyrus T. Brady, Jr, representative of the American Standards Association in South America, was published by the American Chamber of Commerce in Buenos Aires in its magazine and translated and republished by a local advertising magazine, *Impetu*. Extra copies of the article as originally published by the Chamber of Commerce were in such demand that a reprint was issued and widely distributed.

Several speeches delivered by Mr. Brady in July and August discussed standardization problems. "Post-War Development of Argentine Industrial Standardization," was delivered in Spanish before the Centro Argentino de Ingenieros; and "Empiric Formulas and Reality," also in Spanish, was presented before the Asociación Argentina de Electrotécnicos in July.

"Standardization as an Economic Factor in Post-War Reconstruction" was the subject of an address before the British Institution of Civil Engineers late in August.

Motor Vehicle Administrators Will Work for Uniform Highway Law

The American Association of Motor Vehicle Administrators is planning to take the leadership in efforts to secure uniform state laws regulating highway transportation. At a recent meeting in Chicago, the Association voted to work for the adoption of a uniform law to include the following:

1. Uniform time for recognition of foreign licenses.
2. Conditions under which owner of a foreign license will be considered the resident of another state.
3. Complete license plate reciprocity for visitors or transients.
4. Uniform size and weight regulations for interstate commerce.
5. Uniform lighting requirements.
6. Reciprocity on all motor vehicle taxes.
7. Uniform recognition of valid drivers and chauffeurs' licenses.

The Association recommended that its new president, C. F. Joyner, Jr, of Virginia immediately appoint a committee to draft uniform "model" laws.

Australians Change Standards to Manufacture U. S. Shoes

Differences in standard sizes of men's shoes have caused problems in providing shoes for American soldiers in Australia, it was announced recently, although changes have already been made by Australian manufacturers to meet American requirements. Large orders for shoes have been placed with Australian manufacturers by United States authorities, but difficulties arose because the Australians have been making men's shoes only in sizes 5 to 12, and in only three widths in each size. In order to fit American feet, Australian shoe manufacturers are now turning out shoes in half sizes from 5½ to 15½ with six fittings to each half size. All shoes and boots for the Americans are welted rather than screwed and stitched as has been the Australian practice. The wider range of fittings have already been adopted for the Australian women's services.

Merchandising Problems Face Committees On Consumer Goods Standards

by Wm. B. Floyd

BOTH sound merchandising and sound engineering are essential ingredients of every successful standard for consumer goods. Too many people mistakenly assume that the two points-of-view, like oil and water, do not mix. That is why there are so few consumer standards today. But they do mix! For the principles of sound merchandising and sound engineering are merely specialized common sense.

If only the purely engineering aspects of an item are covered, the result will be but half a standard, from the store buyer's point-of-view.

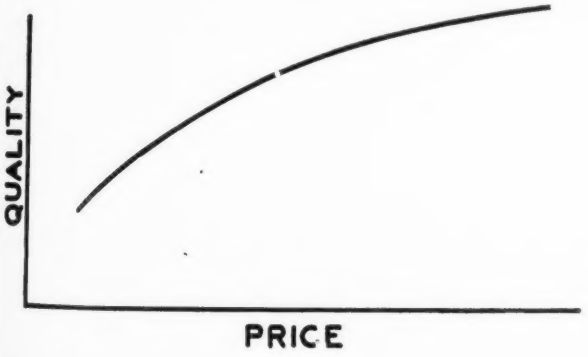
Safety is an example. It is of undeniable comfort to a purchaser to know that the electric iron she buys isn't likely to shock her or start a fire. It would be a greater satisfaction to know that the iron is built in accordance with sound engineering principles. But the prospectve purchaser also wants to know that the iron will iron clothes. She wants to know what "value" it represents. It may even be an object of pride to her, or a way of impressing the neighbors.

At the mention of convenience or value or the many emotional reasons for a purchase, merchandising considerations are introduced. They have to be dealt with in some way and there is no reason why they cannot be. Far more difficult problems have been disposed of in the preparation of many standards.

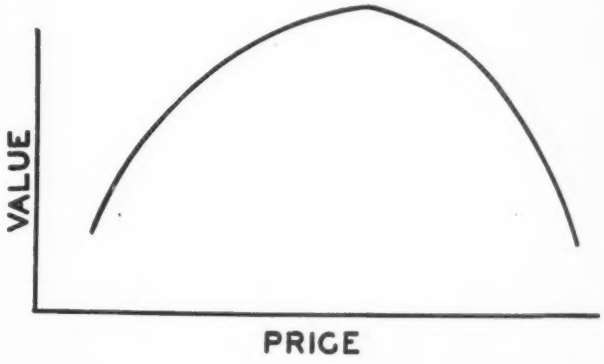
Price Lines

Let's first consider price, quality, and value. For simplicity, let's assume that an item has only one important, measurable quality, such as the mileage to be expected from a set of tires under given road and driving conditions. It is then apparent to any production engineer that quality is a function of price—of manufacturing costs. Better quality is going to cost more. But a place is reached where pouring more money into manufacture begins to make less and less difference in the resultant quality.

In other words, the price-quality curve is something like this:



If we define "value" as quality divided by price—and that is all it is to a consumer—what she gets for her money—it is apparent that plotting value against price will give a curve that climbs to a peak and then falls off:



At first glance, these curves would seem to prove that successful merchandising requires only one quality and price. It is true that there is only one optimum value. And it is generally true in practical merchandising that most sales will fall in the range of maximum value, as we have defined it.

A little thought will show, however, why there are exceptions; why some people buy on one side or the other of the peak in intrinsic value. One time in school I bought a second-hand car for a summer trip. It had no tires and I had to buy some. The trip would be only some 3,000 miles and then the car would be sold, probably to the junk dealer. The cheapest tires that would go 3,000 miles were, for me, the best buy. (Actually I shaved the quality a little too close for the sake of price; the tires didn't last 3,000 miles.)

On the other hand, I have an uncle who retired with plenty of money. The pleasure he gets out of telling people about his "puncture-proof" tires is ample reward for the premium price he paid; a price far beyond optimum miles per dollar.

There may, of course, be many actual prices in the market, reflecting varying manufacturing costs and competitive jockeyings, but they tend to fall into three rather clearly defined groups. Sales results usually show that it is smart merchandising to make definite distinctions among the three price lines.

Types

There is a further multiplication by the variety of types or models that are needed, or at least demanded, by consumers. One common fear is that standardization means that we will all wear uniforms and have identical davenports in the living room. Great variety in color and pattern is, of course, untouched by standardization. It is the fastness of the dye, not its color, and the wear of the fabric, not the length of the skirt, that are standardized.

There are variations of need, however, that do require separate treatment in any set of standards that purports to be complete. In our tires, for example, a

range of sizes must obviously be specified. Truck tires, tractor tires, and passenger car tires obviously receive sufficiently different use to require different specifications, aside from size. In passenger car and truck tires, one type is required for high-speed service largely on paved roads, and quite a different type, in tread characteristics at least, to plow through mud and loose dirt.

These five different types, with our three price lines, multiply out to fifteen different tire standards. In tabular form the fifteen theoretically possible standards are:

	Low Priced	Optimum Value	Superlative Quality
Passenger Car Tires:			
Highway Tires	1	2	3
Traction Tires	4	5	6
Truck Tires:			
Highway Tires	7	8	9
Traction Tires	10	11	12
Tractor Tires:	13	14	15

This number would be increased if, for example, and as may be the case, truck and bus tires have measurably different requirements.

On the other hand, the number might very likely be reduced by the fact that few, if any, commercial truckers are interested in anything except the most miles for every dollar put into tires. In this case, Standards 7 and 10, and 9 and 12 would be eliminated.

Features

As the words are used in merchandising, "features" are not quite the same as types, although there is no sharp distinction between the two. Features are usually thought of as being over and above "basic" requirements; for example, a clock on a kitchen stove or "genuine pearl buttons" on a house dress. In our tire illustration, white sidewalls probably would be classed as a feature rather than as another basic type.

Although, by definition, features are not basic characteristics, they have to receive some consideration in the establishment of standards. For one thing, the clock on the kitchen stove, while probably not included in the stove standard, is subject to minimum standards in its own right as a clock. In other cases, actual need or commercial practice or both makes certain features mandatory in certain types and price lines of an item. An automatic "pop-up", for example, is no more than a possible, optional feature in a low-cost electric toaster for home use. But it probably would be a specified necessity in a heavy-duty restaurant type or in the superlative-quality price line.

The Problem

Merchandising considerations such as have been discussed are complicating factors, but are no more difficult to deal with than any variations in design that are necessary to meet different requirements.

The fact that some differences in requirements may have a partly psychological basis does not make them less real or less tangible. The psychological preferences involved are very objectively reflected in sales figures. They can also be readily subjected to objective test by presenting various designs in the same display and recording customer choices.

One thing, fortunately, that can be by-passed in writing most standards is the variations in materials, designs, and manufacturing processes that do not affect the appearance or performance of the item. Consumer goods standards, perhaps more than most standards, lend themselves to being written in "functional" terms. If the item actually *does* the things that are important to the user, how any given manufacturer makes it do them can well remain the manufacturer's own business.

The real problem, as with all specifications or standards, is that of determining just what functional characteristics are important to each class of user, and just what tests or inspections can be devised to measure these characteristics.

Australia Asks "How Many Is None?"

"Before the coming of the iconoclast who doubted that none is none you could enter 'Zinc . . . none' in the chemical composition clause of an alloy specification without being troubled by doubts," comments the Standards Association of Australia recently in a somewhat facetious mood. "But your stickler for accuracy will point out that the 'none' of everyday affairs is not the precise 'none' of the mathematician," it continues. "What is none by one set of criteria may be a measurable quantity according to another.

"When the aspirations of specifications are translated into the realities of practice the various 'nones' and 'nils' are usually freed from their bondage and allowed to stray to a boundary explicitly or implicitly accepted by the parties to the contract. These limiting values are now beginning to appear in the specifications themselves, sometimes with the unobtrusive removal of the 'none', but in other cases suffering it to remain, discredited by a definition.

"A recent British Standard for solders explains that 'the figure 0 implies that the amount of the element present must be so small as not to be determinable in ordinary routine chemical analysis'. An emergency alternate provision to an ASTM specification for brass has a footnote stating that 'the term "none" applied to aluminum allowance is defined as 0.115 percent when determined on a 10 g sample'—a mere few billion molecules from the physicist's point of view!"

Magazine Articles Explain Color Standard

A special feature on the use of color, with articles telling how to specify and describe color, was published in the July issue of the *American Printer*. An article explaining the color notation system adopted by the American Standards Association in the American War Standard, Specification and Description of Color, is included. The *American Printer* calls attention to the letterpress and offset color guides issued recently by the International Printing Ink Division of the Interchemical Corporation, in which the colors are notated in accordance with the American War Standard and the Munsell system which the standard recognizes.

Standards Issued by Associations and Government

(For new American Standards see page 189)

For the information of ASA Members, the American Standards Association gives here a list of standards received by the ASA Library during the last month. The list below includes only those standards which the ASA believes are of greatest interest to Members.

These standards may be consulted by ASA Members at the ASA Library, or copies may be obtained from the organization issuing the standard. The address of the organization is included for your convenience in ordering.

Associations and Technical Societies

American Society for Testing Materials (260 South Broad Street, Philadelphia 2, Pa.)

The letter T following a designation indicates the standard is Tentative.

Tentative Specifications for:
Copper Bus Bars, Rods, and Shapes B187-44T
Copper Bus Pipes and Tubes B188-44T
Tentative Methods of:
Sampling and Grading Rosin D509-44T
Emergency Specifications for:
Special Quality, Magnesium-Base Alloy Die Castings ES-40

Society of Automotive Engineers (29 West 39th Street, New York 18, N. Y.)

Aeronautical Material Specifications

Cadmium Plating AMS 2400C
Sprayed Metal Finish Aluminum AMS 2450A
Magnetic Inspection AMS 2640A
Compound, Anti-Seize (Mica Base) AMS 3082A
Gasket, Oil Resisting (High Temperature) AMS 3232D

Society of Automotive Engineers—(Continued)
Magnesium Alloy Castings (Sand) 6 Al 3 Zn (Solution) AMS 4422C
Magnesium Alloy Castings (Sand) 6 Al 3 Zn (Solution-Precipitation) AMS 4424C
Magnesium Alloy Castings (Sand) 9 Al 2 Zn (Solution-Precipitation) AMS 4434B
Magnesium Alloy Castings (Permanent Mold) 9 Al 2 Zn (Solution-Precipitation) AMS 4484
Bronze Strip AMS 4520B
Centrifugal Steel Castings, Chromium Molybdenum, .38-43 Carbon AMS 5345
Steel-Carburizing, .5 Ni .5 Cr .2 Mo (.12-.17C) AMS 6270B
Steel-Carburizing, .5 Ni .5 Cr .2 Mo (.15-.20C) AMS 6272B
Steel-Carburizing, .5 Ni .5 Cr .2 Mo (.17-.22C) AMS 6274B
Steel-Carburizing, .1.8 Ni .25 Mo (.11-.17C) AMS 6290C
Steel-Carburizing, .1.8 Ni .25 Mo (.15-.20C) AMS 6292C
Steel-Carburizing, .1.8 Ni .25 Mo (.17-.22C) AMS 6294C

Copper & Brass Research Association (420 Lexington Avenue, New York 17, N. Y.)

Manual of Standards, Latest Revision of

U. S. Government

(Wherever a price is indicated, the publication may be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C. In other cases, copies may be obtained from the government agency concerned.)

National Bureau of Standards (Washington, D. C.)

Commercial Standards

Douglas Fir Plywood Recommended Revision CS45-42
Marking of Jewelry and Novelties of Silver CS118-44 5¢
Refrigeration Condensing Units, Recommended Revision CS(E)107-43

Simplified Practice Recommendations

Cotton Canton Flannels (Unbleached) for Work Gloves, Proposed Revision of R186-42
Metal Lath (Expanded and Sheet) and Metal Plastering R3-44 5¢
Steel Lockers Single, Double, and Multiple Tier) Proposed Revision of R-35-28

Federal Specifications Executive Committee (U. S. Treasury Department, Washington, D. C.)

Federal Specifications

(Copies available from Superintendent of Documents, Government Printing Office, Washington, D. C.)

Brass, commercial: bars, plates, rods, shapes, sheets, and strips (Amendment 4) QQ-B-611a August 1, 1944 5¢
Brass, naval: bars, plates, rods, shapes, sheets, and strips (Amendment 3) QQ-B-636 August 1, 1944 5¢
Calcium carbide (Amendment 3) O-C-101 August 15, 1944 5¢
Cans: safety (for gasoline, naphtha, etc.) (Amendment 1) (superseding E-RR-C-92, 9/15/42) RR-C-92 August 15, 1944 5¢
Cement: rubber (artists' and photographers' and cold-patching) (Amendment 1) ZZ-C-191a September 1, 1944
Diathermy-apparatus: short-wave (Amendment 2) W-D-286 August 15, 1944 5¢
Cloth: wire, screen (Amendment 3) RR-C-451a August 15, 1944 5¢

Frames; hack-saw (Amendment 2) GGG-F-671 August 15, 1944 5¢
Goggles; eyecup, protective (welders) (superseding GGG-G-511) GGG-G-511a September 1, 1944 5¢
Hooks; bush (brush) (new) GG-H-601 August 15, 1944 5¢
Hose, fire; cotton, rubber-lined (Amendment 2) ZZ-H-451a August 1, 1944 5¢
Lamps; electric, incandescent, large, tungsten-filament (1943 Supplement) W-L-101e August 15, 1944
Lamps; electric, incandescent, miniature, tungsten-filament (1945 Supplement) W-L-111b September 1, 1944 5¢
Lanterns; oil-burning, hand, globe (Amendment 1) (superseding E-RR-L-112, 3/27/42) RR-L-112 August 15, 1944 5¢
Machines; slicing, bread (Amendment 2) (superseding E-OO-M-66, 3/9/42) OO-M-66 August 15, 1944 5¢
Machines; vegetable-peeling; electrically operated (Amendment 2) (superseding E-OO-M-106, 8/4/42) OO-M-106 August 15, 1944 5¢
Motors; alternating-current, fractional-horsepower, single-phase and universal (Amendment 1) (superseding E-CC-M-636, 11/3/42) CC-M-636 August 15, 1944 5¢
Pipe; steel and ferrous alloy (for) bending, flanging, etc. (iron-pipe size) (superseding part of WW-P-403a) WW-P-404 August 15, 1944 5¢
Pipe; steel and ferrous alloy (for) ordinary uses (iron-pipe size) (superseding part of WW-P-403a) WW-P-406 August 15, 1944 5¢
Soap-powder (Amendment 2) P-S-606a August 15, 1944 5¢
Support; laboratory-apparatus (new) GG-S-801 August 15, 1944 5¢
Solder; silver (superseding QQ-S-561c) GG-S-561d August 15, 1944 5¢
Yellow-iron-oxide; hydrated, synthetic, dry (paint pigment) (Amendment 1) TT-Y-216 September 1, 1944

U. S. Department of Interior (Bureau of Mines) (Washington, D. C.)

Standardized Construction of Mine Ventilating Doors I.C.7280

Two NFPA Books Give Fire-Prevention Data

1944 Editions of Fire Codes for Prevention of Dust Explosion and Fire Codes for Building Construction Are Published

TWO books containing standards and other information for the prevention of fire and explosions in different fields have just been published by the National Fire Protection Association, both of them incorporating standards prepared by NFPA committees and approved by the American Standards Association.

These documents are the *National Fire Codes for the Prevention of Dust Explosion, 1944* and *the National Fire Codes for Building Construction and Equipment, 1944.*

The *National Fire Codes for the Prevention of Dust Explosion* supersedes the 1943 edition and includes 15 American Standard safety codes for the prevention of dust explosion and ignition. A new code for Explosion and Fire Protection in Plants Producing and Handling Magnesium Powder or Dust is also included.

A statement of fundamental principles of dust explosion prevention in industrial plants and a record of 840 dust explosions which have occurred in the United States are other features.

Dust Explosion Hazards Menace 28,000 Plants

The U. S. Census of Manufacturers shows that at least 28,000 industrial plants, employing well over 1,000,000 persons and making products that have an annual value of over ten billion dollars are subject to the hazard of dust explosions. The NFPA book covers such industries as aluminum bronze powder manufacturing, plants dealing with magnesium powder or dust, coal pneumatic cleaning plants, flour and feed mills, pulverized fuel systems, spice grinding plants, starch factories, pulverizing systems for sugar and cocoa, plants handling sulphur dust, country and terminal grain elevators, wood flour manufacturing, woodworking plants, and grain elevators. There is also a standard method of using carbon dioxide or other inert gas for the prevention of explosions and fires.

Codes covering specific industries have been approved as American Standard by the American Standards Association, and many of them have been adopted by the National Board of Fire Underwriters as their official standards.

Under the chairmanship of Hylton R. Brown of the U. S. Bureau of Mines, and Dr. David J. Price of the U. S. Department of Agriculture, former chairman, the codes were prepared by the NFPA Committee on Dust Explosion Hazards, which includes engineers representing all major interests concerned. This committee also functions as the ASA Sectional Committee on Prevention of Dust Explosions, Z12. The sectional committee is under the sponsorship of the National Fire Protection Association and the U. S. Department of Agriculture.

The *National Fire Codes for the Prevention of Dust Explosion, 1944,* is 176 pages, illustrated, bound in red cloth, $2.00; bound in brown paper covers, $1.00. It may be obtained from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

The *National Fire Codes for Building Construction and Equipment, 1944,* is a new book of 512 pages, incorporating the many NFPA standards, and several American Standards in this field. It also includes original NFPA standards which have not been currently revised but which are still valid in their basic principles and are not available elsewhere. Certain related reference material commonly accepted by fire protection authorities but not adopted officially by the NFPA is also included. The volume was compiled by Robert S. Moulton, Technical Secretary of the NFPA, and includes: Life Safety from Fire, Restricting Spread of Fire, Chimneys and Smoke Pipes, Building Equipment, Building Details, Occupancy Standards, Construction Operations, and Fire Tests.

The book is 512 pages, illustrated, bound in red cloth, $3.00. from the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass.

ASA Standards Activities

American Standards

American Standards Approved Since Our August Issue

Cast-Iron Pipe Flanges and Flanged Fittings, Class 250 (Revision of B16b-1928) B16b-1944
Sponsors: American Society of Mechanical Engineers; Heating, Piping, and Air Conditioning Contractors National Association; Manufacturers Standardization Society of the Valve and Fittings Industry

Protection of Structures Containing Inflammable Liquids and Gases, Revision of American Tentative Standard C5.3-1944 (Part III of the Code for Protection Against Lightning)
Sponsors: National Bureau of Standards; American Institute of Electrical Engineers

Insulator Tests, (Revision of C29.2-1930) C29.2-1944
Sponsor: Electrical Standards Association

Standards Being Considered by ASA for Approval

Safety Code for Prevention of Dust Explosion in Starch Factories, Revision of Z12.2-1942

Safety Code for Explosion and Fire Protection in Plants Producing or Handling Magnesium Powder or Dust Z12.15
Sponsors: National Fire Protection Association; U. S. Department of Agriculture

Standards Submitted to ASA Since Our August Issue

Spring Lock Washers B27
Sponsors: Society of Automotive Engineers; The American Society of Mechanical Engineers

American War Standards

War Standards Approved and Available Since Our August Issue

Leaders, Cues and Trailers for 16-Mm Sound Motion Picture Release Prints Made from 25-Mm Negatives Z52.19-1944 20¢

Photographing Aperture of 35-Mm Motion Picture Cameras Z52.35-1944 10¢

Picture Projection Aperture of 35-Mm Motion Picture Projectors Z52.37-1944 10¢

War Standards Under Way

Color Code for Lubrication of Machinery Z47

Cylindrical Fits B4.1

Linemen's Rubber Protective Equipment J6

Machine Tool Electrical Standards, Revision of C74-1942

Photography and Cinematography Z52
- Dimensions for Film-Reel Spindles for 16-Mm Sound Motion Picture Equipment Z52.34
- Method of Making Intermodulation Tests on Variable Density 16-Mm Sound Motion Picture Prints Z52.15
- Method of Determining Signal-to-Noise Ratio of 16-Mm Sound Motion Picture Prints Z52.38
- Method of Making Cross-Modulation Tests on Variable Area 16-Mm Sound Motion Picture Prints Z52.39
- Method of Determining Printer Loss in 16-Mm Sound Motion Picture Prints Z52.40
- Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories Z52.14
- Picture Projection Aperture of 35-Mm Motion Picture Projectors Z52.37
- Sizes of Photographic Projection Screens Z52.41
- Sound Records and Scanning Area for 35-Mm Sound Motion Picture Prints Z52.36
- Specification for Auditorium Type Slide Film Projector Z52.28
- Specification for Classroom Type Slide Film Projector Z52.29
- Specification for Class II Service Model 16-Mm Sound Motion Picture Projection Equipment Z52.13
- Specification for Leaders, Cues and Trailers for 16-Mm Sound Motion Picture Release Prints Processed from Original 16-Mm Material Z52.31
- Specification for Photographic Contact Printer Z52.18
- Specification for 16-Mm Motion Picture Film Reels Z52.33
- Specification for Test Film for Checking Adjustment of 16-Mm Sound Motion Picture Projection Equipment Z52.2
- Specification for Photographic Enlarger Z52.23
- Specification for Warble Test Film Used for Testing 16-Mm Sound Motion Picture Equipment Z52.32

Protective Occupational (Safety) Clothing L18
- Welders' Leather Gauntlet Gloves L18.7
- Protective Leather Gloves, Steel-Stapled L18.8
- Asbestos Gloves L18.9
- Asbestos Gloves, Leather Reinforced L18.10
- Asbestos Mittens L18.11
- Asbestos Mittens, Leather Reinforced L18.12
- Women's Safety and Powder Caps L18.3
- Asbestos Aprons L18.14
- Asbestos Cape Sleeves and Bibs L18.15
- Asbestos Leggings L18.16
- Asbestos Coats L18.17
- Leather One-Finger Mittens L18.18
- Leather Mittens L18.19
- Asbestos One-Finger Mittens L18.20
- Flame-Resistant Fabric
  - Aprons (Bib Type) L18.21
  - Leggings (Knee and Hip Length) L18.22
  - Coats L18.23
  - Pants L18.24
  - Coveralls L18.25

Resistance Welding Equipment C52
- Electrodes C52.3
- Specifications for Design and Construction of Resistance Welding Equipment C52.4

Safety Color Code for Marking Physical Hazards Z53

Safety Code for the Industrial Use of X-Rays Z54

Screw Threads B1
- Acme Screw Threads B1.5

News of ASA Projects

Code for Protection Against Lightning (C5)—

In accordance with a proposal of the American Institute of Electrical Engineers and in concurrence with the National Bureau of Standards, the National Fire Protection Association has been designated as a third sponsor for the Code for Protection Against Lightning. Recently revised scope of Code includes protection of persons, buildings, powder magazines, oil tanks, gas holders, smoke stacks, trees, ships, airships, and live stock.

Safety Color Code for Marking Physical Hazards (Z53)—

First meeting of the war committee on Safety Color Code for Marking Physical Hazards was held on Tuesday, September 12 in Room 2036, 70 East 45th Street, New York 17, N. Y.

Safety Standards for Bakery Equipment (Z50)—

At recent meetings of subcommittees for Safety Standards for Bakery Equipment, plans were made for guarding bread slicing, wrapping and handling equipment, cake mixers, and flour handling and biscuit machinery. A safety code for ovens, now in preparation, will cover explosive and mechanical hazards.

New ASTM Committee Starts Work on Adhesives

An important new tetchnical committee has just been organized by the American Society for Testing Materials to function in the field of adhesives. This new Adhesives Committee (ASTM D-14) was authorized by the Society some months ago, and was formally organized at a meeting at ASTM headquarters in Philadelphia late in June.

T. R. Truax, Principal Wood Technologist, U.S. Forest Products Laboratory, Madison, Wisconsin, has been appointed temporary chairman of the committee. Other temporary officers are P. H. Bilhuber, Steinway & Sons, New York, vice-chairman, and Henry Grinsfelder, Senior Engineer, Resinous Products & Chemical Company, Philadelphia, secretary.

A preliminary statement of scope of the committee outlines the work it expects to undertake as follows:

> The formulation of specifications, methods of test, and definitions of terms pertaining to adhesives, including animal, vegetable, mineral, and synthetic types.

In accordance with the set-up of most ASTM technical committees, a number of sub-groups are being appointed to be responsible for specific projects. A list of these subcommittees with some indication of their responsibilities follows:

I Subcommittee on Strength Tests (M. H. Bigelow, Chairman)
Shear, tension, compression, torsion, vibration.

II Subcommittee on Analytical Tests (Leonard Repsher, Chairman)
Viscosity, acidity, fillers, etc.

III Subcommittee on Tests for Permanency (F. J. Wemmer, Chairman)
Moisture, temperature, chemicals—oils, salt, etc., microorganisms, etc.

IV Subcommittee on Working Qualities (C. B. Hemming, Chairman)
Working life, assembly time, rate of setting, gluing pressure, etc.

V Subcommittee on Specifications (Gerald Reinsmith, Chairman)
Synthetic resins, starch, animal, casein and vegetable proteins, cellulose, mineral, rubber, bituminous, etc.

VI Subcommittee on Nomenclature and Definitions (C. M. Kline, Chairman)

The new committee was organized by the ASTM because suggestions received by the Society from industry and government, and work of other ASTM standing committees, had made it increasingly evident that initiation of standardization work and promotion of research on the properties of adhesives would be of considerable benefit to industry, from the standpoint both of producer and of consumer. A year ago, pending formation of the new committee, the Society's Committee D-20 on Plastics started urgent work involving specifications for synthetic resinous adhesives. This work was of much importance to certain branches of the Army. Development of standard test methods was a particularly complicated problem, but, after several meetings, there has been agreement on certain basic considerations, and important progress is being made. Now, with Committee D-14 getting under way, the work on resinous adhesives has been transferred to it.

While there has been an increasing amount of information and data on adhesives, it is apparent there is an urgent need to develop and correlate authoritative data, particularly on the properties of various types and reliable methods of determining these properties.

It will be the problem of the new ASTM standing committee to sponsor any necessary research to develop adequate test methods. When agreement has been reached on testing procedures, the committee will be in a position to consider the preparation of standard performance specifications.

Aid to Technical Writing Recommends American Standards

The University of Minnesota recently published its Engineering Experiment Station Bulletin No. 21, *Aids to Technical Writing*, by Richard C. Jordan and Marion J. Edwards. This little bulletin is of particular interest to readers of INDUSTRIAL STANDARDIZATION since about one-third of its context is devoted to American Standards, lucidly illustrating the manner in which American Standards reduce effort and encourage uniformity of practice.

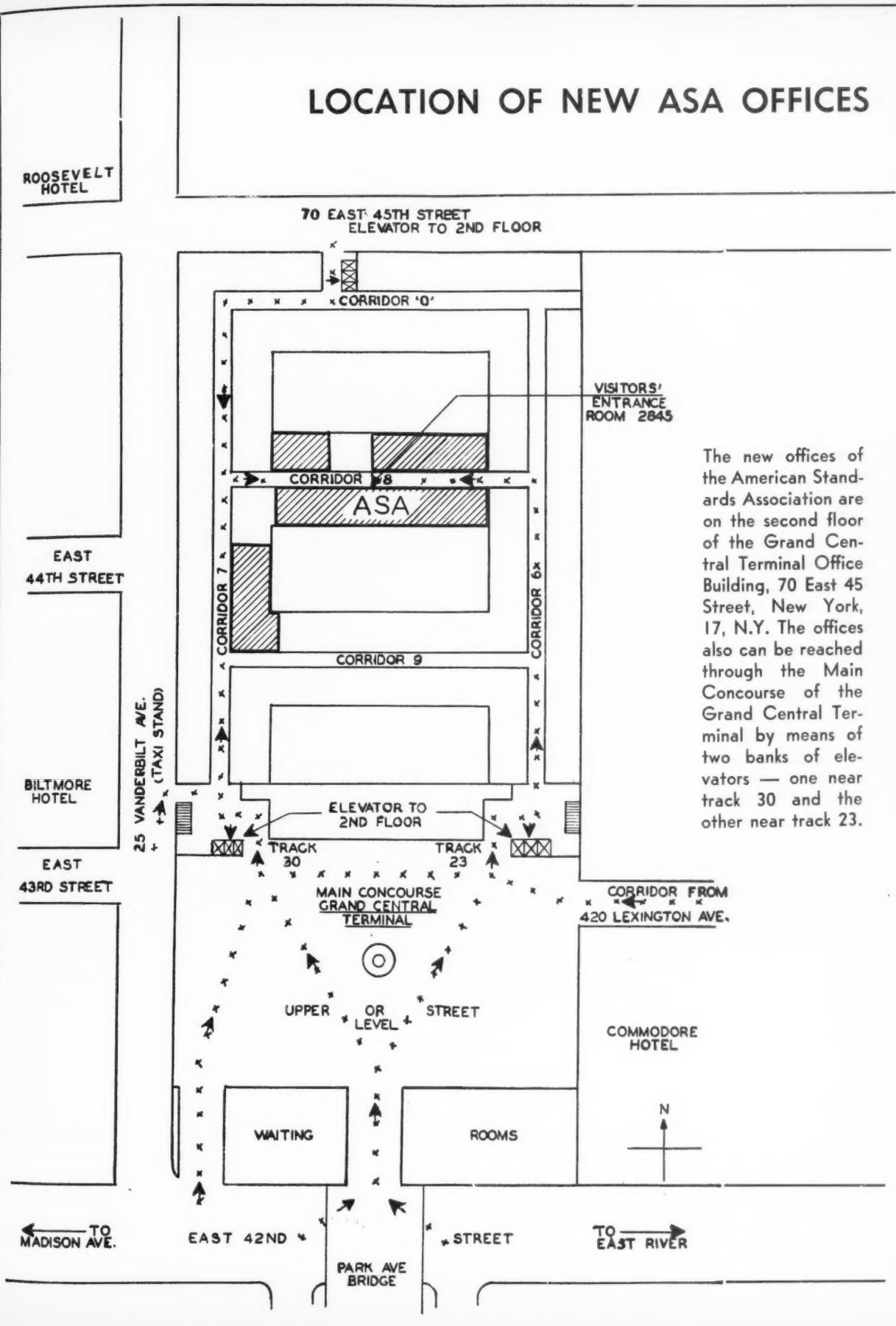
Information to help the technical writer plan his material for the printer, and prepare his manuscripts, including handling of photographs and other illustrations, is included. American Standard symbols and abbreviations are featured.

Aids to Technical Writing will assist all those who are charged with responsibility for producing technical reports of any kind, since it not only offers a guide for their own work but also by providing a standard practice will help to eliminate many of the differences of opinion which now often occur between author and editor.

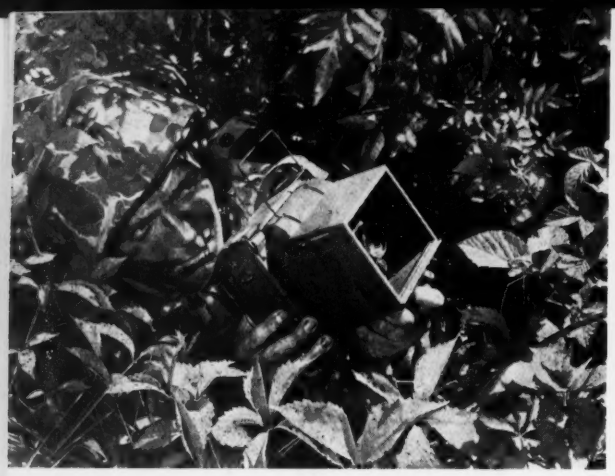
The bulletin can well be used as a miniature handbook and handy reference in every organization producing technical literature and a copy should by all means be on every engineer's desk.

Copies may be ordered from the Engineering Experiment Station, University of Minnesota. Minneapolis, Minn., at 50 cents each.

LOCATION OF NEW ASA OFFICES



The new offices of the American Standards Association are on the second floor of the Grand Central Terminal Office Building, 70 East 45 Street, New York, 17, N.Y. The offices also can be reached through the Main Concourse of the Grand Central Terminal by means of two banks of elevators — one near track 30 and the other near track 23.



War Standards for Photography and Cinematography

These standards developed by the ASA War Committee on Photography and Cinematography (Z52) represent jobs urgently needed by the Armed Forces.

More than 25 additional standards in the fields of both still and motion picture photography are on the way.

16-MM MOTION PICTURES

*Service Model Projection Equipment, Z52.1-1944 (JAN-P-49)
*Release Prints, Z52.3-1944 (JAN-P-55)
Leaders, Cues and Trailers for Reduction Prints, Z52.19-1944 ..... 20¢
Positive and Negative Splices for Processed Films, Z52.20-1944 ..... 10¢
Sound Records and Scanning Area for Prints, Z52.16-1944 ..... 10¢

Test Methods

Determining Freedom from Projector Travel Ghost, Z52.4-1944 ..... 10¢
Determining Resolving Power of Projector Lenses, Z52.5-1944 ..... 10¢
Determining Projector Picture Unsteadiness, Z52.6-1944 ..... 10¢
Determining Uniformity of Projector Scanning Beam Illumination, Z52.7-1944 ..... 10¢

Test Films

Multi-Frequency Test Film, Z52.8-1944 ..... 10¢
3000-Cycle Flutter Test Film, Z52.9-1944 ..... 10¢
Buzz-Track Test Film, Z52.10-1944 ..... 10¢
Sound-Focusing Test Film, Z52.11-1944 ..... 10¢
400-Cycle Signal Level Test Film, Z52.17-1944 ..... 10¢

Printer Aperture Dimensions

Positive Aperture for Reduction Printing, Z52.24-1944 ..... 10¢
Negative Aperture for Reduction Printing, Z52.25-1944 ..... 10¢
Positive Aperture for Contact Printing, Z52.26-1944 ..... 10¢
Aperture for Reversal Prints, Z52.27-1944 ..... 10¢

35-MM MOTION PICTURES

Camera, Photographing Aperture, Z52.35-1944 ..... 10¢
Picture Projection Aperture, Z52.27-1944 ..... 10¢

EXPOSURE METERS

*Service Model Exposure Meter, Z52.12-1944 (JAN-M-58)
Acceptance of Reflected Light Meters, Z52.21-1944 ..... 10¢
Calibration of Reflected Light Meters, Z52.21-1944 ..... 10¢
Abuse Testing Mechanism, Z52.30-1944 ..... 25¢

*JAN Specifications and American War Standards listed together are technically identical.

American Standards Association

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